

Expert Meeting on the Science of National Mitigation Efforts, different gases and 1.5°C Degrees - Summary

22nd June, Online 16:00-18:00 Irish Time

Key messages:

- Legal agreements made under the Paris Agreement must be implemented.
- There is agreement on the physical science of what needs to be done to limit global warming at the global level, however debate remains around how this could and should be done at a regional/national level.
- There is urgency to reduce Carbon Dioxide (CO₂) and Methane (CH₄) now, as all additional emissions contribute to expected peak warming.
- A decrease in the rate of methane emissions is essential to limit future warming.
- Fossil methane emissions, as well as biogenic methane emissions, also need to be reduced from the global perspective.
- Global emission pathways of greenhouse gases should not be simply used as national emission pathways.
- Climate science can't tell us how to distribute the effort among emitters, this depends entirely on value judgements about what is considered feasible and fair.

Background

To assist in deliberations, the secretariat of the CCAC – Carbon Budget Committee arranged a science meeting on key topics including national mitigation efforts, relationship of different greenhouse gasses and the 1.5°C temperature target. Four senior international science experts from around the world were invited to present and answer questions in an open discussion.

All presentations are available from the secretariat but some summary messages included below.

Panel Expert 1 - Florin Vladu, UNFCCC Secretariat

Talk title: Paris Agreement Perspective

As background Florin provided an overview of the UNFCCC, the operational mechanics of the Paris Agreement and the international dynamics between climate science and policy, before moving on to explain more on the second periodic review and the global stocktake.

The second periodic review will not result in an alteration or redefinition of the long term goal of the Paris Agreement i.e. 'hold the increase in the *global average temperature* to well below 2°C above preindustrial levels and to pursue efforts to limit the temperature increase to 1.5°C'.

However, the definition of '*global average temperature*' i.e. the preindustrial reference period, can change as this average historic temperature is more accurately calculated. This can potentially change the level of mitigation needed.

Panel Expert 2 - Dr. Andy Reisinger, Vice Chair IPCC & New Zealand Environment Ministry

Talk title: Different greenhouse gases, their impact on climate, metrics, and the relevance to national approaches to mitigation.

Andy summarised relevant sections of the IPCC special report on 1.5°C, the need to reduce both CO₂ and CH₄ emissions immediately as well as looking at efforts from a New Zealand context.

Science can tell us: it's a zero sum problem i.e. less mitigation in one source requires more mitigation in another source to reach the same temperature limit.

Science can't tell us: how to distribute effort among emitters.

Distributing effort across emitters depends entirely on value judgements about what is considered feasible (economically, socially, environmentally) and fair.

New Zealand are aligned with a 1.5°C target.

Panel Expert 3 - Dr. Joeri Rogelj, Grantham Institute for Climate Change

Talk title: The latest understanding on efforts required to achieve the 1.5°C goal

Joeri highlighted the remaining carbon budget for limiting warming to 1.5°C is small, the impact of past and future non-CO₂ emissions and the efforts and feasibility of limiting warming to 1.5°C.

Of the feasibility concerns (2020-2100) implementing a 1.5°C pathway, institutional feasibility is the highest concern compared to economic, technology or social-cultural feasibility.

'Cost effectiveness' does not necessarily equate to 'fairness'

Panel Expert 4 - Prof. Myles Allen, Oxford University

Talk title: The role of non-CO₂ climate pollutants in meeting ambitious temperature goals

Myles highlighted elements of the IPCC Special Report on 1.5°C and provided a mathematical description of human induced warming. His summary focused on the need of framing climate policy in terms of warming outcomes rather than emission inputs. His observations included:

Policy anomalies under 'input based' accounting.

The need to penalise actions that contribute to global warming and reward those that reduce global warming.

The need to set a separate, ambitious but realistic target for reducing methane emissions, recognising their temperature impact.

Panel Discussion

A moderated panel discussion followed the expert talks.

Sinead Walsh, Ireland's Climate Envoy, highlighted the importance of the climate linkage between domestic and international forums.

A discussion on fossil methane, as opposed to biogenic methane which is much talked about in Ireland, concluded that both fossil and biogenic methane need to reduce as part of any global emission reduction plan.

The panel discussion concluded with insight into what 'fair' means in terms of sector and regional effort. Significant difficulties exist in defining fair both at national budget level and within the global stocktake. A number of speakers remarking that cost effectiveness does not necessarily mean fair.

Open Discussion

In the open discussion that followed attendees had the opportunity to ask the expert panel their questions, many of these focusing on methane.

The expert panel noted that:

- Emission reductions need to be realistic.
- A lot of social damage can be done if you go too hard too fast.
- You need buy-in from farmers.
- Impacts of earth system emission of methane, such as thawing permafrost, are expected to take a long time and are included in IPCC estimates, but anthropogenic methane production remains the dominant source.

Closing remarks

The chair concluded with the acknowledgment that the Irish population is taking on a very significant challenge in which all sectors need to play a part.

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Agenda

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Objective: To hear from international experts on the latest science.

16:00	Scene Setting	Phillip O'Brien, Climate Change Advisory Council Secretariat
	Paris Agreement Perspective	Florin Vladu UNFCCC Secretariat
	The role of different gases in achieving Paris temperature goals	Dr. Andy Reisinger, Vice Chair IPCC & New Zealand Environment Ministry
	The latest understanding on efforts required to achieve the 1.5C goal	Dr. Joeri Rogelj, Grantham Institute for Climate Change
	The latest understanding of the role of different gases in achieving the 1.5 goal	Prof. Myles Allen, Oxford University
	Panel Discussion	Moderator: Phillip O'Brien
	Open Discussion	Moderator: Phillip O'Brien
18:30	Meeting Close	Chair Marie Donnelly, Climate Change Advisory Council

33 people attended